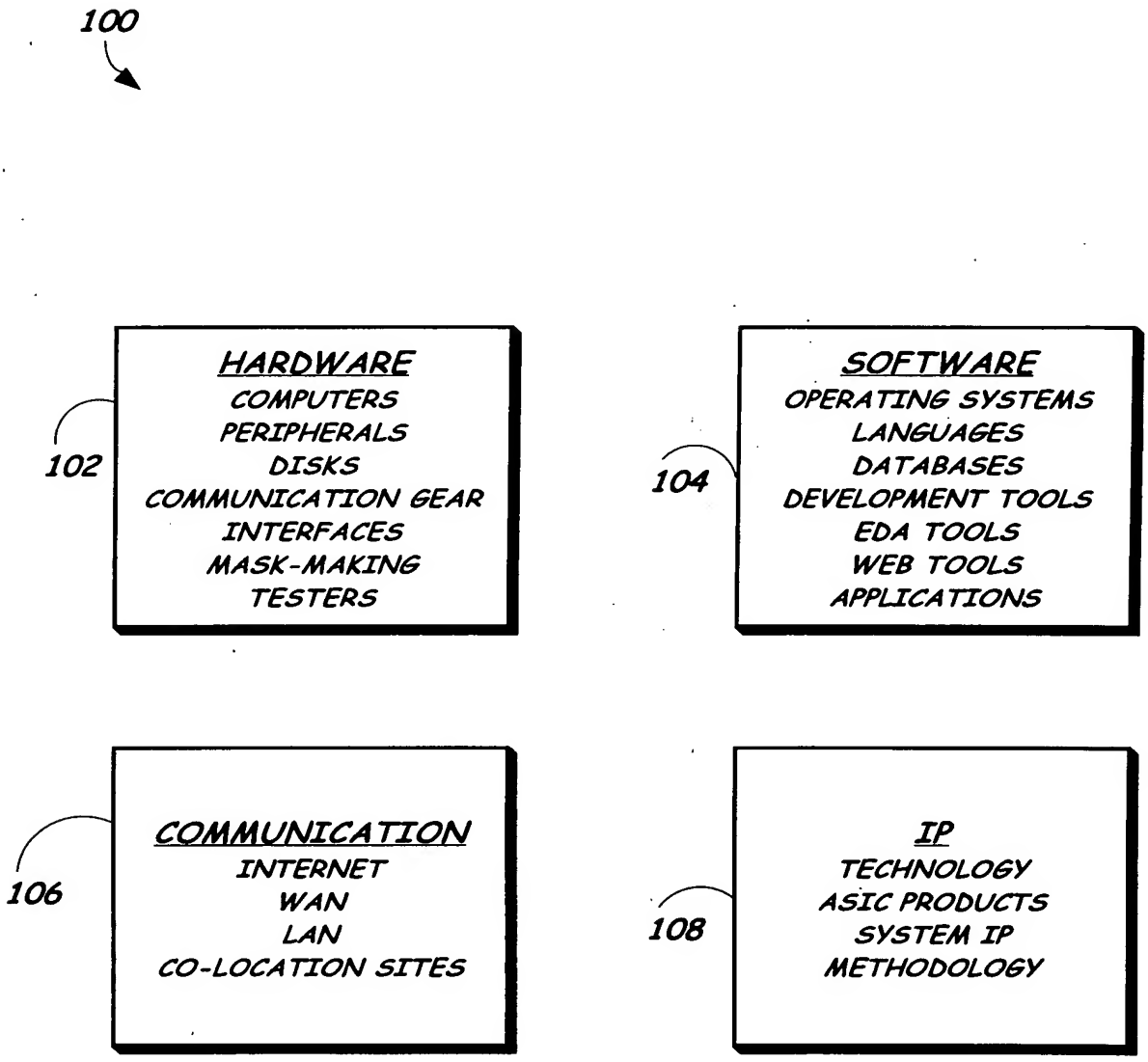
100
HARDWARE
COMPUTERS
PERIPHERALS
DISKS
COMMUNICATION GEAR
INTERFACES
MASK-MAKING
TESTERS
102
SOFTWARE
OPERATING SYSTEMS
LANGUAGES
DATABASES
DEVELOPMENT TOOLS
EDA TOOLS
WEB TOOLS
APPLICATIONS
104
COMMUNICATION
INTERNET
WAN
LAN
CO-LOCATION SITES
106
IP
TECHNOLOGY
ASIC PRODUCTS
SYSTEM IP
METHODOLOGY
108

FIG. 1

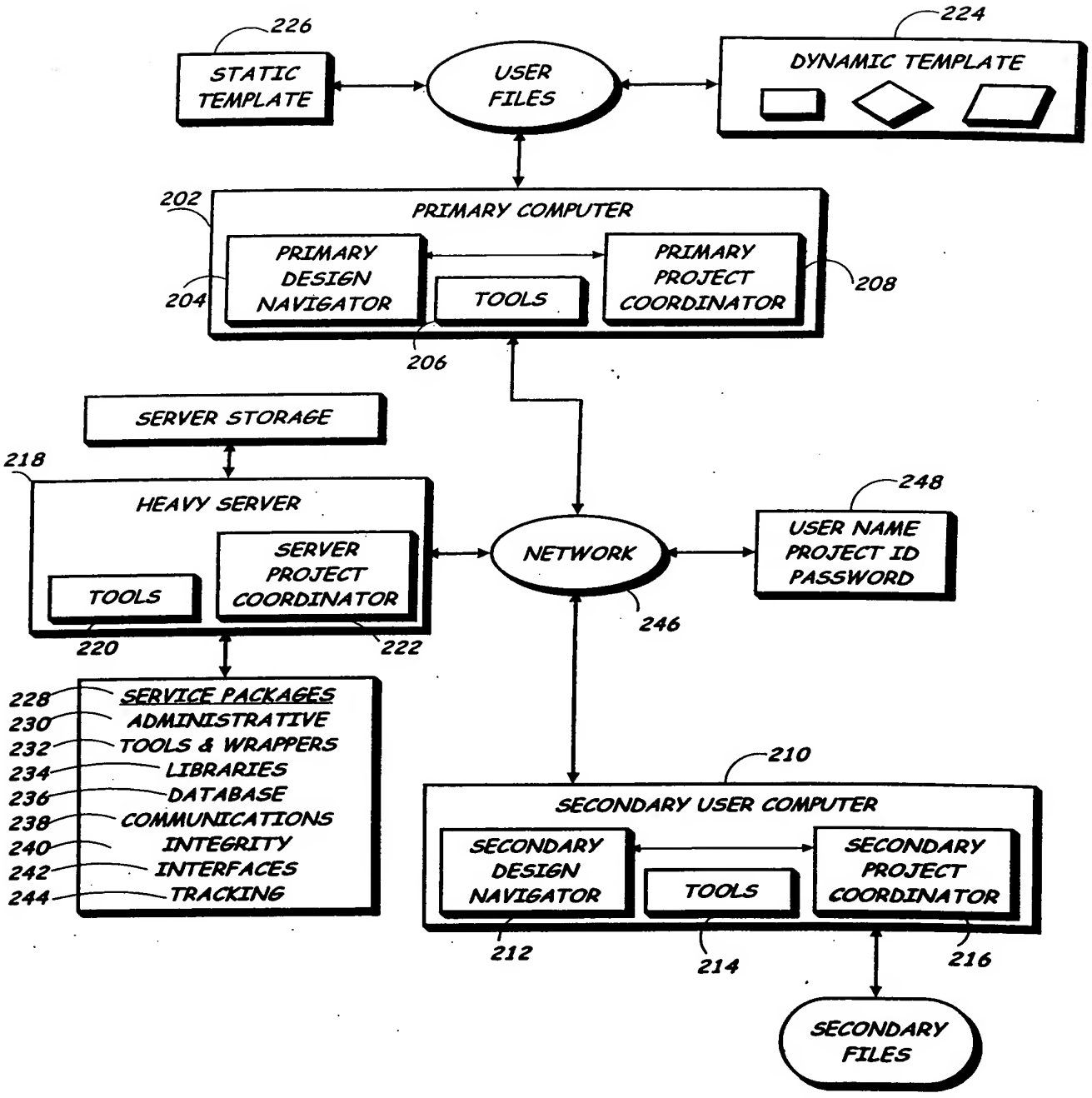
226
STATIC TEMPLATE
USER FILES
224
DYNAMIC TEMPLATE
202
PRIMARY COMPUTER
PRIMARY DESIGN NAVIGATOR
204
TOOLS
206
PRIMARY PROJECT COORDINATOR
208
SERVER STORAGE
218
HEAVY SERVER
TOOLS
220
SERVER PROJECT COORDINATOR
222
NETWORK
246
248
USER NAME PROJECT ID PASSWORD
228 SERVICE PACKAGES
230 ADMINISTRATIVE
232 TOOLS & WRAPPERS
234 LIBRARIES
236 DATABASE
238 COMMUNICATIONS
240 INTEGRITY
242 INTERFACES
244 TRACKING
210
SECONDARY USER COMPUTER
SECONDARY DESIGN NAVIGATOR
212
TOOLS
214
SECONDARY PROJECT COORDINATOR
216
SECONDARY FILES

FIG. 2

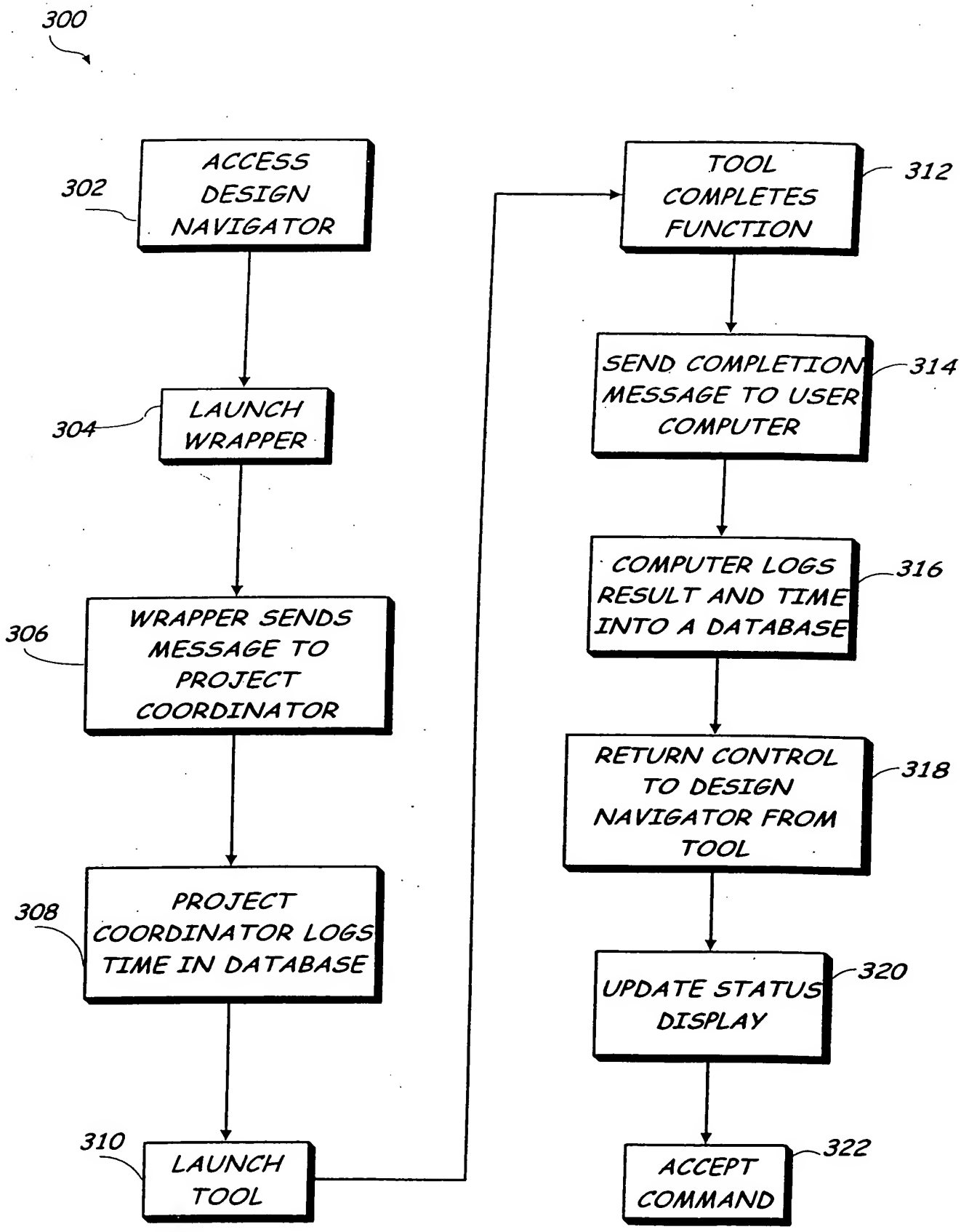
300
302
ACCESS DESIGN NAVIGATOR
304
LAUNCH WRAPPER
306
WRAPPER SENDS MESSAGE TO PROJECT COORDINATOR
308
PROJECT COORDINATOR LOGS TIME IN DATABASE
310
LAUNCH TOOL
312
TOOL COMPLETES FUNCTION
314
SEND COMPLETION MESSAGE TO USER COMPUTER
316
COMPUTER LOGS RESULT AND TIME INTO A DATABASE
318
RETURN CONTROL TO DESIGN NAVIGATOR FROM TOOL
320
UPDATE STATUS DISPLAY
322
ACCEPT COMMAND

FIG. 3

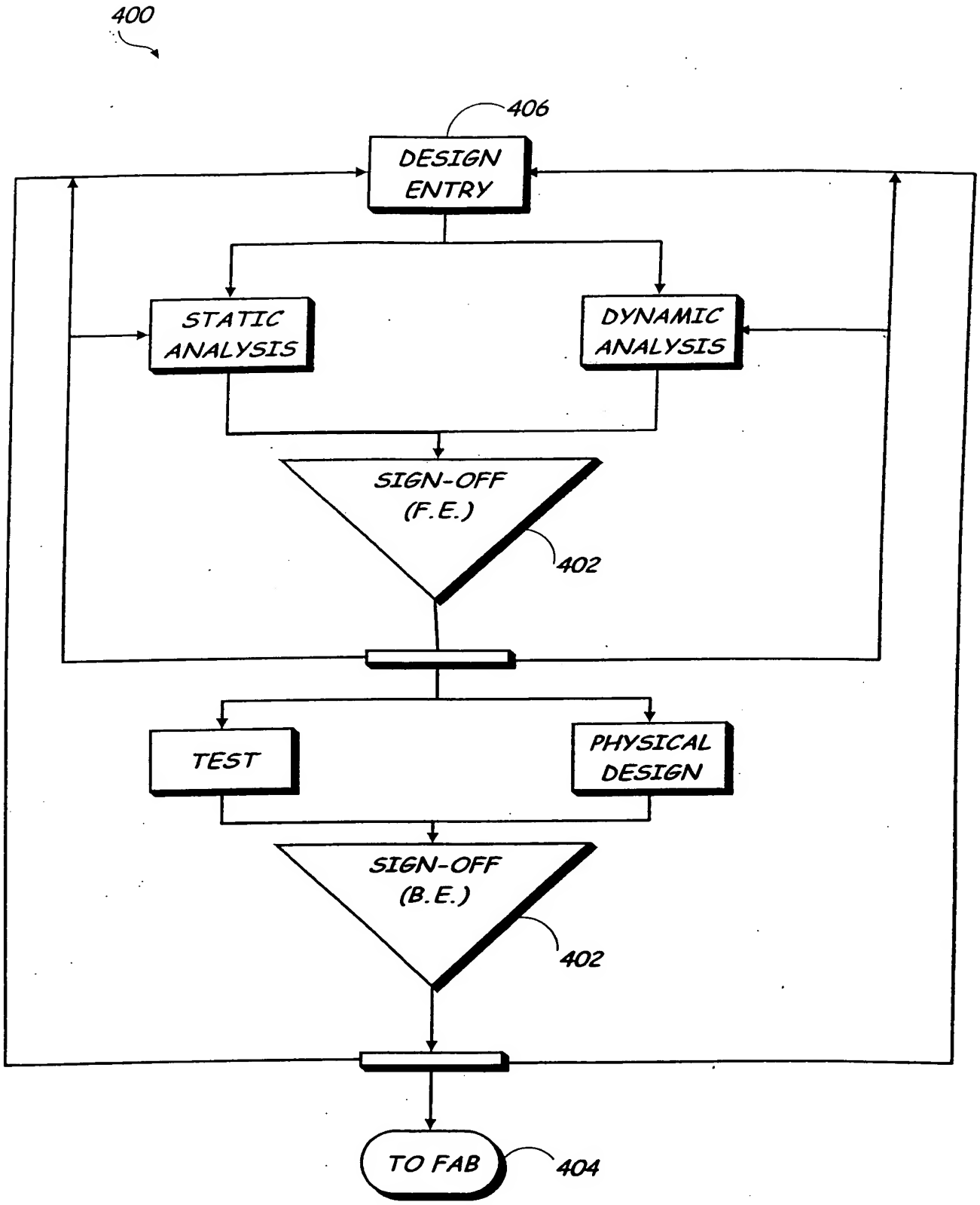
400
406
DESIGN ENTRY
STATIC ANALYSIS
DYNAMIC ANALYSIS
SIGN-OFF (F.E.)
402
TEST
PHYSICAL DESIGN
SIGN-OFF (B.E.)
402
TO FAB
404

FIG. 4A

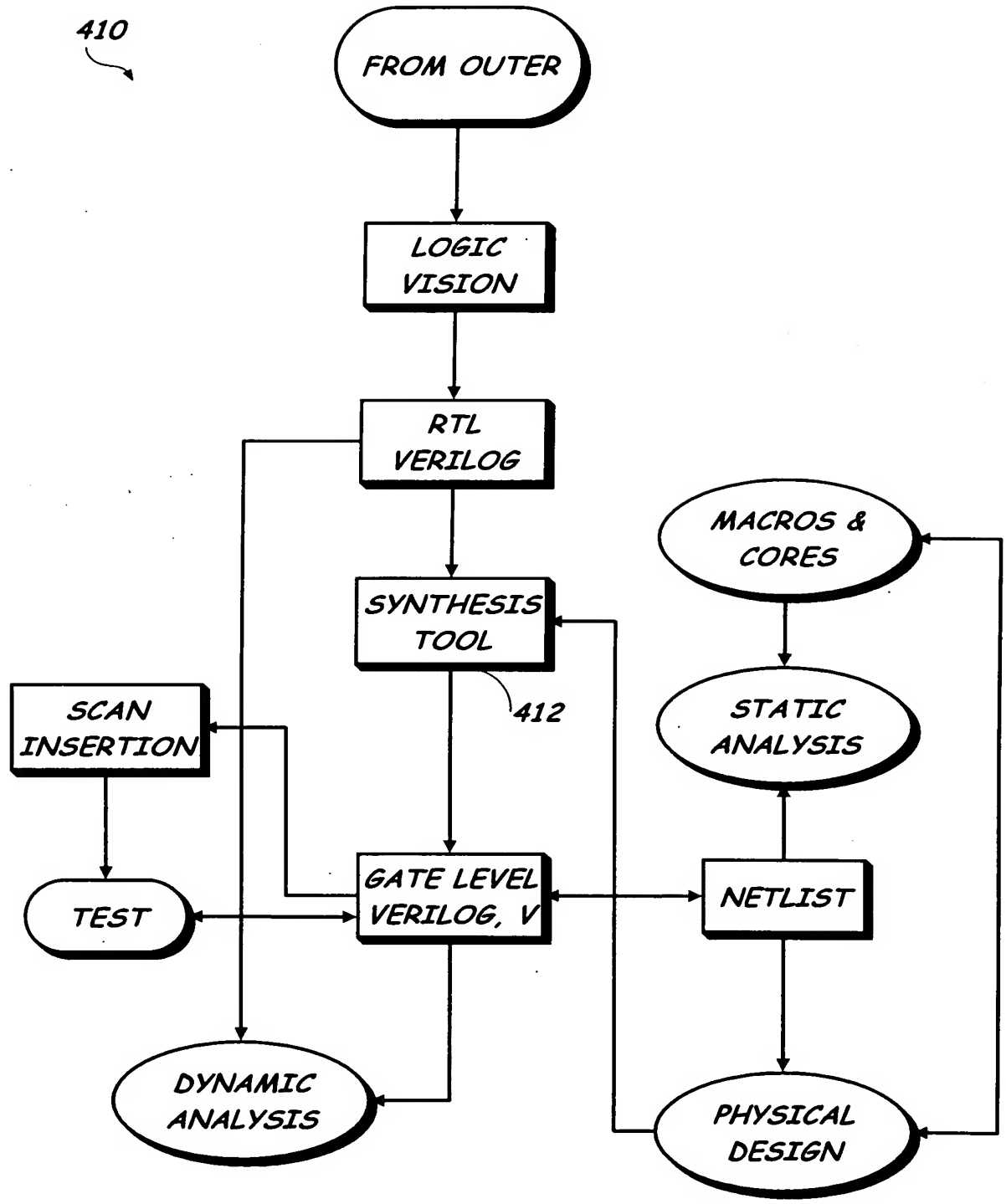
410
FROM OUTER
LOGIC VISION
RTL VERILOG
SYNTHESIS TOOL
412
SCAN INSERTION
TEST
GATE LEVEL VERILOG, V
DYNAMIC ANALYSIS
MACROS & CORES
STATIC ANALYSIS
NETLIST
PHYSICAL DESIGN

FIG. 4B

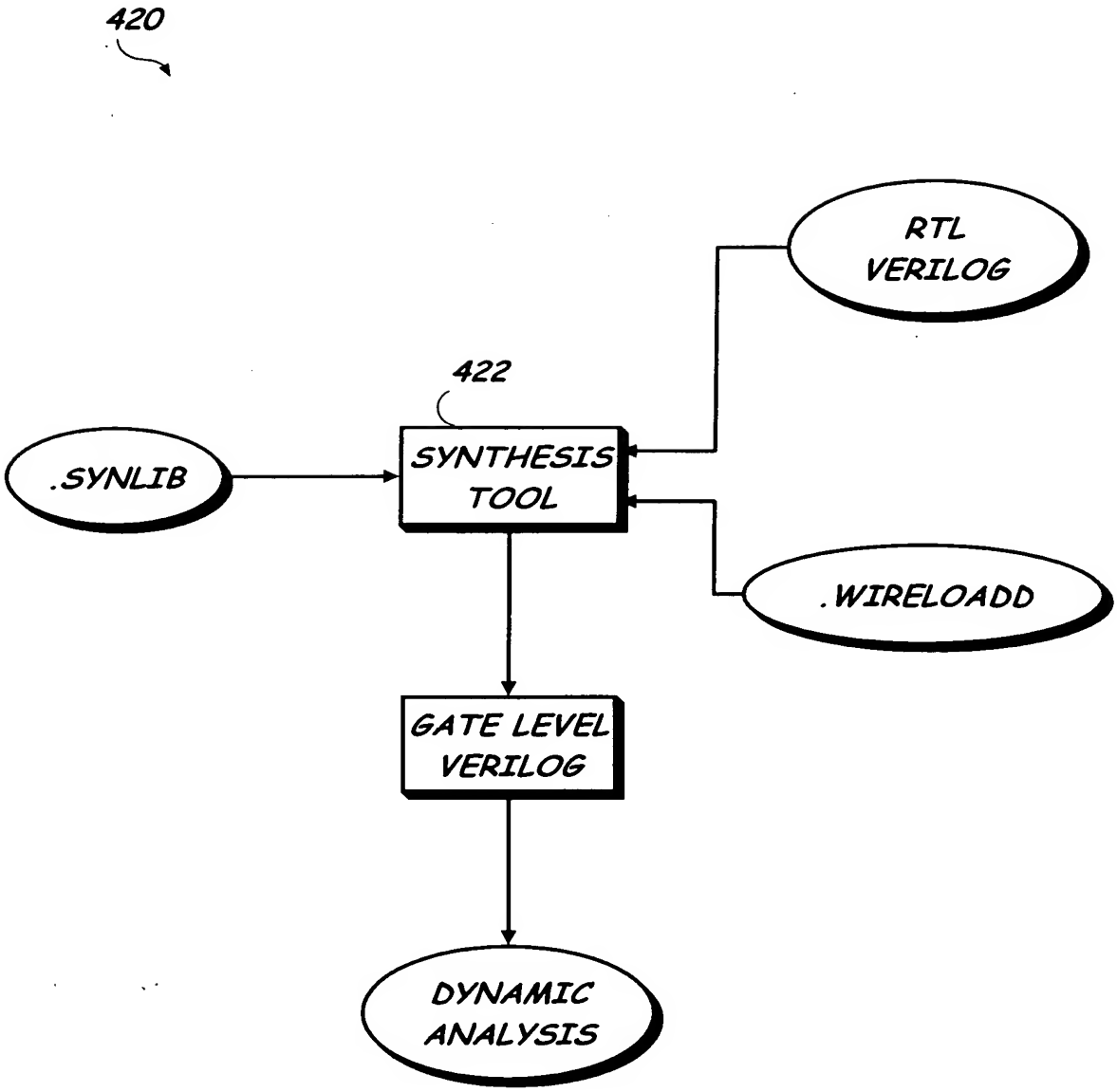
420
RTL VERILOG
422
.SYNLIB
SYNTHESIS TOOL
.WIRELOADD
GATE LEVEL VERILOG
DYNAMIC ANALYSIS

FIG. 4C

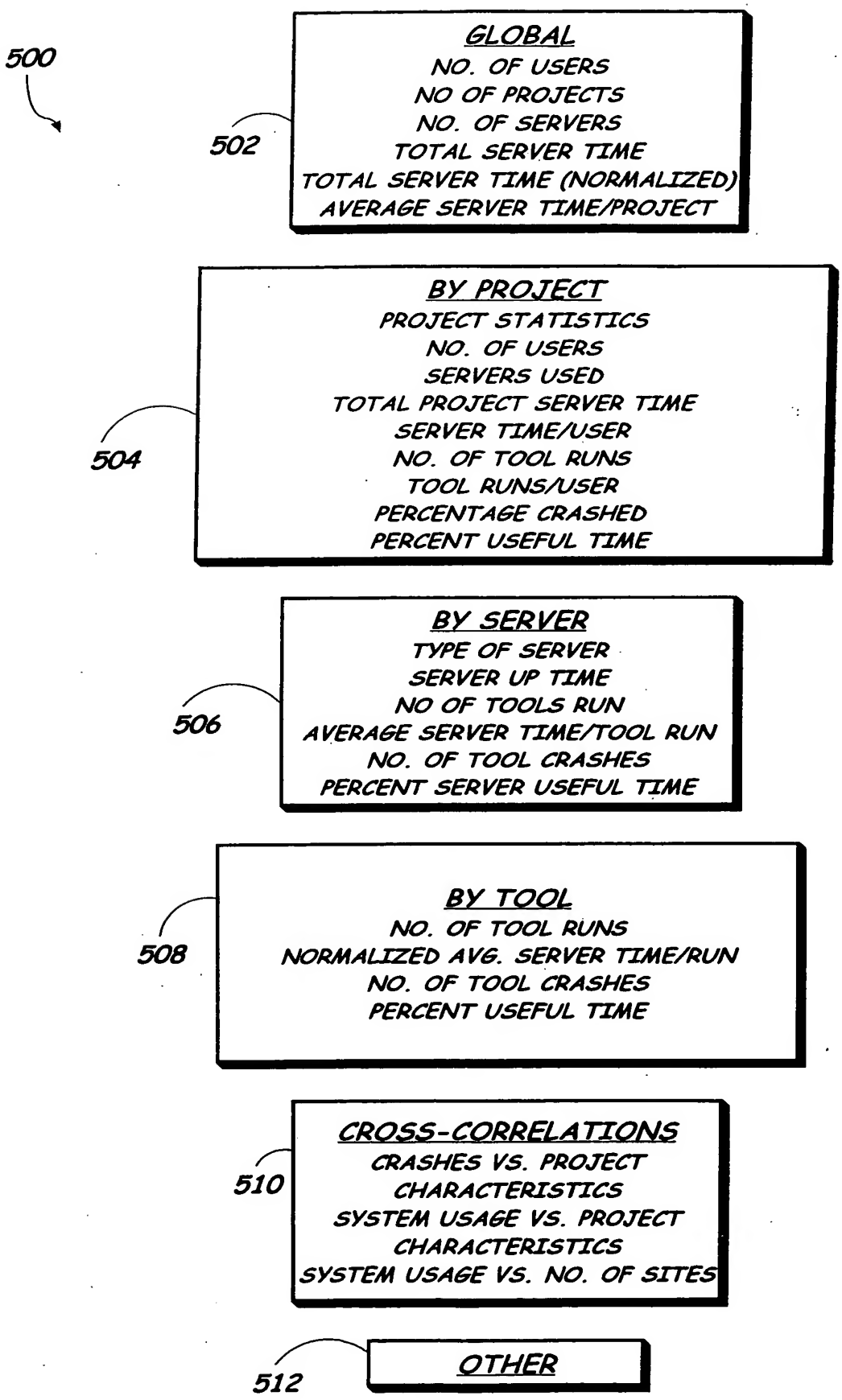
500
502
GLOBAL
NO. OF USERS
NO OF PROJECTS
NO. OF SERVERS
TOTAL SERVER TIME
TOTAL SERVER TIME (NORMALIZED)
AVERAGE SERVER TIME/PROJECT
504
BY PROJECT
PROJECT STATISTICS
NO. OF USERS
SERVERS USED
TOTAL PROJECT SERVER TIME
SERVER TIME/USER
NO. OF TOOL RUNS
TOOL RUNS/USER
PERCENTAGE CRASHED
PERCENT USEFUL TIME
506
BY SERVER
TYPE OF SERVER
SERVER UP TIME
NO OF TOOLS RUN
AVERAGE SERVER TIME/TOOL RUN
NO. OF TOOL CRASHES
PERCENT SERVER USEFUL TIME
508
BY TOOL
NO. OF TOOL RUNS
NORMALIZED AVG. SERVER TIME/RUN
NO. OF TOOL CRASHES
PERCENT USEFUL TIME
510
CROSS-CORRELATIONS
CRASHES VS. PROJECT CHARACTERISTICS
SYSTEM USAGE VS. PROJECT CHARACTERISTICS
SYSTEM USAGE VS. NO. OF SITES
512
OTHER

FIG. 5